

eye useless, where the other eye is also blind, and where the formation of an artificial pupil is out of the question.

One remark of the author we may quote—that his scraping process is much more likely to produce inflammation, when carried on near the circumference of the cornea. This is so far fortunate, since it is precisely in that part that opacity of the cornea is of least consequence.—*Assoc. Med. Journ.* June 23, 1854.

MIDWIFERY.

36. *Paralysis occurring during Gestation and in Childbed.*—The *Dublin Quarterly Journal of Medical Science* (May, 1854) contains a very interesting article on this subject, with the particulars of 84 cases collected from various sources, by Dr. FLEETWOOD CHURCHILL.

The following is a summary of these cases, with his remarks upon the more important points connected with them. The number of cases he admits, however, are too few to justify decided conclusions from them:—

“Of the 34 cases, in 22 the attack occurred during pregnancy; in 12, either during or after labour.

“In 23 cases where it is mentioned, I find that with 10 it was their first child, with 1, the second; with 4, the third; with 2, the fourth; with 3, the fifth; with 1, the sixth; with 1, the thirteenth; and 1 had several children, but the number is not specified.

“Of the 34 cases, there were 17 of complete hemiplegia, and 1 partial; 4 of paraplegia, in 2 of which only one leg was affected; 6 of facial paralysis; 5 of amaurosis, and 3 of deafness; but in some of these latter local palsies were combined with the cases of hemiplegia. Of 14 cases of hemiplegia, in which the side affected is mentioned, I find that 11 were of the right, and 3 of the left side.

“Of the 34 cases, 4 died.

“It may be well, however, to consider these cases somewhat more closely, and for that purpose they may be divided into two classes, those which occurred during pregnancy, and those which were attacked during or after labour.

“Of the 22 cases in which paralysis occurred during pregnancy, 12 were examples of hemiplegia; 1 of paraplegia, which had occurred previously; 4 of facial paralysis; 2 of amaurosis; and 3 of deafness. There is no regularity as to the period of gestation at which the seizure took place, for of 13 cases in which this is mentioned, in 1 it occurred in the second month; in 1 in the third or fourth; in 1 in the fifth; in 1 in the sixth or seventh; in 3 in the seventh; in 2 in the eighth; and in 4 in the ninth month; from which it would seem, upon the whole, that it is in the latter months that pregnant women are most liable to the attack.

“Of 19 cases, 11 appear to have been cured before or by delivery, and in 8 the disease continued for a longer or shorter time afterwards.

“Of the 20 cases, only 1 died, and in this case it is evident that death was rather owing to disease of the brain, of longer standing than the pregnancy, than to the paralysis which increased during that process; so that I do not think we can reckon it as impairing the comparatively innocuous character of these attacks during gestation.

“In 3 cases only was the paralysis preceded by convulsions. In most of the cases it does not appear that there were any premonitory symptoms, little or no headache, or any other circumstance calculated to excite apprehension until the paralysis supervened. The characteristics of the palsy resembled very closely those of similar attacks unconnected with pregnancy; the motor power was enfeebled or altogether lost; in some the sensibility was increased, diminished, or modified; but in others, I infer from the silence of the reporter, that it was little, if at all, changed from its natural condition. The intellect seems to have preserved its integrity in all the cases. A peculiarity of great interest

in many of these cases, and to which I shall revert by and by, is the presence of albumen in the urine, whenever that secretion was carefully examined.

"The second class, consisting of 12 cases, is characterized by the attack occurring during or after labour. It is remarkable that in 3 cases only (Cases 23, 24, 25) did the paralysis take place during labour, and of these, 2 were cases of convulsions; in all the others it not merely succeeded labour, but in most cases after an interval sometimes considerable: for example, in Case 23, it took place on the first day after delivery; in Case 27, two days afterwards; in Case 32, three days; in Case 34, seven days; in Cases 26, 29, 31, eight days; in Case 30, ten days; and in Case 33, a month afterwards.

"Of these 12 cases, 5 were cases of complete hemiplegia; in 1 only the arm was affected; 1 was a case of complete paraplegia; in 1 the right, and in 1 the left leg only was paralyzed; 2 were examples of amaurosis; 1 of facial paralysis; and in 3 only of the cases of hemiplegia the face participated in the attack. In Dr. Levy's very remarkable case, the paralysis of the motor power of one side was accompanied by loss of sensibility on the other. In some of the cases the sensibility was diminished, in others unaltered, but in none increased. The phenomena of the disease were not peculiar: in the majority of the cases the attack occurred generally without warning, and without any obvious cause. In 2 cases convulsions terminated in amaurosis, but in Mr. Forrest's case the paralysis preceded the convulsions, and during the latter, the paralyzed limbs shared in the convulsive movements.

"The duration of the disease varied a good deal, the paralysis gradually subsiding in most cases: in Case 22, after several days; in Case 23, in six weeks; Case 31 recovered the use of the arm in a fortnight, but vision remained imperfect for some months; in Case 34, in a month; in Cases 28, 29, in two months; Case 22 recovered the power of walking in two months, but was then attacked by another disease which proved fatal; Case 26 left the hospital without improvement.

"In 3 cases death occurred: in Case 32, on the fourteenth day, and in Case 34, on the twenty-fourth day after the paralytic seizure. Dr. Ley does not mention on what day his patient died.

"I have already alluded to the fact that in most of the cases the attack occurred without warning, and without apparent *cause*. Some cause there must be, of course; but it is much easier, in most cases, to say what it is not than what it is. For example, in none of these examples except one, did it appear to depend upon any external influence—upon cold, exposure, violence, &c.—or upon mental distress; in few, if any, was there evidence of previous cerebral congestion, or disease of any other organ.

"It has been suggested that the palsy may be merely the termination of convulsions, and certainly some of these cases would seem to support this view; but if this were generally true, we should find convulsions more frequently preceding the paralysis; and, also, we should meet with more cases of convulsions terminating in paralysis. Now, in all the cases I have quoted, a large majority exhibited no convulsive movements at all, and, on the other hand, of all the cases of convulsions related by Drs. Collins, and McClintock and Hardy, there is not a single instance of such a termination; we must therefore refer both convulsions and paralysis to some common or different cause.

"I have no doubt, as Dr. Romberg has observed, that in a number of cases, especially those which occur during gestation, the palsy is due to a reflex action from some organ or structure in a morbid condition, and in which the nervous system seems to be merely the channel of transmission, offering no central disorganization. In such cases the exciting cause may possibly be some injury or morbid condition of the generative organs, or perhaps merely a transient excitement, such as that of pregnancy. It is possible, also, that some of the instances occurring during gestation ought rather to be classed under the head of hysterical paralysis, as described by Drs. Laycock and Romberg; but it is not always easy to make the distinction.

"Obstruction of the arteries has been recently shown by Professor Simpson¹

¹ Edinburgh Monthly Journal, February, 1854.

to be an occasional occurrence in childbed, either from arteritis, a coagulum, or a detached vegetation; and a degree of paralysis may be the result; but inasmuch as the death of the limb, and ultimately of the patient, is the direct consequence of such an occurrence, the history of the cases I have quoted removes from them the suspicion of being thus caused.

"It might naturally be supposed that the stress and exertions during labour, which give rise to such great congestion of the face and head by also occasioning congestion of the brain, might be considered one of the principal causes: but such a supposition is not borne out by facts, for, excluding the cases of convulsions, in only one case did the paralysis occur at the time of labour; in all the others it either supervened before labour, or subsequently, at a time when all such direct action must have ceased, and in some, after such an interval that we cannot suppose it even a remote effect of the parturient agony. On the other hand, when we remember the number of severe labours in which no such attack occurs, or compare its frequency with that of convulsions during labour, we can scarcely attribute much influence to this cause.

"Again, as we have seen, paraplegia has been attributed to severe and prolonged labour, and to the consequent mechanical pressure upon the nerves and muscles of the pelvis, and at first sight this seems an adequate and feasible explanation, and of which no one could deny the possibility; yet so far as our cases are concerned it can hardly have been so, for in all but one the labour was natural, easy, and not prolonged: in the exceptional case the patient had been delivered by the forceps; moreover, the period at which it occurred was too distant to justify our attributing it to this cause in the other cases. On the other hand, if we recollect the number of severe, prolonged, and instrumental deliveries which take place, without any such result, no example being recorded by Drs. Collins, McClintock, and Hardy, or, with the exceptions I have quoted, in any of the reports of the British and foreign hospitals, so far as I am acquainted with them, I think we must also reject this peculiarity of labour as a necessary or frequent cause.

"In two cases the attacks seem to have been connected with an anemic condition, consequent upon hemorrhage, either from the direct effect of a deficiency of the circulating fluid, or indirectly from the increased susceptibility of the nervous system, under these circumstances, to ordinary exciting causes. In another case paraplegia appeared to result from cold; but, in the majority of cases, as I have already observed, there was neither plethora nor anemia; neither exposure, want, injury, advanced age, mental distress, nor sudden shock; in short, there was no apparent cause.

"Unfortunately for the cause of science, there are very few *post-mortem* examinations on record, from which we might decide with some degree of certainty upon the nature of the affection. In all the slighter and more partial cases, life is preserved, and when death occurs in the more severe instances, permission to examine the body cannot always be obtained. Of the four fatal cases I have here detailed, two only were examined; in these, and I doubt not in the other two also, disease of the brain or its membranes existed. In Dr. Ley's case, he states that "no positive disorganization of the brain could be detected. The ventricles, however, contained more than the usual serum; and there was found, more especially opposite to the original seat of pain, thickening and increased vascularity of the membranes, with moderately firm adhesions in some parts; in others an apparently gelatinous, transparent, and colourless deposit interposed between them." In short, there appears to have been an attack of partial meningitis, and the contrast between the peculiar train of symptoms to which it gave rise, and the absence of all symptoms except the palsy in Dr. Duke's case, is very interesting, when we remember the remarkable disorganization we discovered in the latter case.

"Now in these cases we may fairly assume that the palsy and death itself were the result of the disease of the brain and its membranes, but to what are we to attribute the slighter and more numerous cases? Do they not appear to belong to the class described by Dr. Abercrombie, as 'depending upon a cause which is of a temporary nature, and capable of being speedily and entirely removed?'"

"What is this temporary cause, producing so serious a disturbance, and yet scarcely, if at all, endangering life? May it be the one to which Dr. Latham refers, as observed 'in those convulsions and apoplexies which appear and disappear, the chief circumstance which attracts our attention being albuminous urine?' At any rate, it deserves our careful attention. Of the fact of the concurrence of albuminuria with certain affections of the nervous system during pregnancy and childbed, there can be no doubt whatever. Both Drs. Lever and Simpson have detected it in cases of convulsions during pregnancy and labour: the former observes: 'I have carefully examined the urine in every case of puerperal convulsions that has since come under my notice, both in the Lying-in Charity of Guy's Hospital and in private practice, and in every case but one the urine has been found to be albuminous at the time of the convulsions.' 'I have further investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn during labour by the catheter, care being taken that none of the vaginal discharges were mixed with this fluid; and the result has been that in no cases have I detected albumen, except in those in which there have been convulsions, or in which symptoms have presented themselves which are readily recognized as precursors of puerperal fits.' Dr. Simpson's observations about the same time, and those of more recent observers, Sabatier, Legroux, Richelot, and others, have confirmed the conclusions of Dr. Lever as to the presence of albumen in the urine in cases of puerperal convulsions, so that no doubt now exists as to the fact, although we occasionally meet with cases of convulsions without albuminous urine, and of albuminuria without convulsions.'¹

"Now, as paralysis in some cases occurs in connection with convulsions, if not as a consequence of them, we might, not unnaturally, expect albumen in the urine of such patients, and accordingly, in a patient of Dr. Lever's, and in others, we find that it has been detected.

"But we may go a step further, and state that in cases where no convulsions have preceded the paralysis, albuminuria has been equally observed. Dr. Lever says of his cases, that in none in which he examined the urine did he ever fail to find albumen, and the great experience of Professor Simpson is in close accordance with this, as may be seen by the quotations I have given, and by the cases with which he has favoured me. This was observed also in Dr. Duke's case, where the paralysis succeeded the delivery; and in which I think there is ground for believing that the albumen had diminished at the time the urine was first examined. In all probability it would have been detected in many others, had an investigation been made.

"Thus we find that albuminuria may be a marked symptom in puerperal convulsions, whether terminating in paralysis or not; and in the palsy of pregnant and puerperal women, whether partial or complete, whether local or general; and if the observations are yet too few to draw any very positive conclusions, it is, I believe, because our attention has not been drawn to the subject. And when, in addition, we find, as Dr. Lever states, that as the albumen diminishes, the paralysis subsides, we can hardly doubt that there is some important connection between them.

"What, then, is the precise pathological significance of albuminuria? We

¹ It may be of interest to append Dr. Seyfert's conclusions on this subject. "1. Albuminuria is not an essential accompaniment of normal, healthy pregnancy. 2. The theory, ascribing albuminuria to the pressure of the enlarged uterus on the renal vessels, is inadmissible. 3. When anasarca, from Bright's disease, occurs during pregnancy, the patients are seldom attacked by eclampsia. 4. The albuminuria, in cases of eclampsia, is occasioned by the interruption of the functions of the respiration and circulation by the attack. 5. In such cases the albuminuria terminates with the attack. 6. Albuminuria is not present in all cases of eclampsia. 7. Albumen is found in large quantities in the urine of epileptics, *immediately after an attack*; but not invariably after every seizure, or in every case of the disease. 8. Provided there be no Bright's disease, this albuminuria among epileptics ceases soon after the convulsions, and only returns after the next attack."—*Edinburgh Monthly Journal*, Feb. 1854, p. 168.

may assume as established, that although it occurs in Bright's disease, *it alone is no proof of the presence of that disease*; but in the present state of our knowledge it is very difficult, perhaps impossible, to come to any very decided conclusion upon the matter. It is conceivable that an unusual, morbid, or noxious ingredient in the urine may be produced in either of three ways: 1. By simple elimination from the blood, in which it was present; 2. As the result of diseased action of the kidneys, excited either by some noxious principle in the blood, or by a morbid condition of these organs; or 3. As a new compound, the result of chemico-pathological action, which we may or may not be able to explain.

"Now, albumen in the urine cannot be placed under the latter category, as it is not a new principle, but one already existing in the blood. Nor does it come under the first, for although it is possible that it might be eliminated from the blood in which it is present, it cannot be as a noxious element, nor would this simple elimination account for the condition of the kidneys or for the concomitant symptoms. So that it would appear this secretion of albumen must be owing to some disordered action of the kidneys, excited by some morbid element, in kind or degree, which they are endeavouring to separate from the blood. This seems at least to be the opinion of a high authority, Dr. George Johnson, of London, who, in describing acute desquamative nephritis, in which albumen is so largely secreted, observes; 'that all the changes of structure commence in the secreting cells of the gland, and are the result of an effort made by the cells to eliminate from the blood some abnormal products, some materials which do not naturally enter into the composition of the renal secretion.'¹ This view is further confirmed by a *post-mortem* examination into the state of the kidneys themselves in albuminuria. Dr. Handfeld Jones, in a recent paper, has described three varieties: 'The first is the condition of engorgement, such as is seen in those who die in the early stages of acute anasarca, or in that of dropsy succeeding scarlatina. The organ is enlarged, dripping with blood in every part; its tissue not destroyed, but many of the tubes are seen, under the microscope, to contain coagula of exuded fibrin, entangling blood-globules, and more or less of epithelium.' 'The second form of diseased renal structure is that of the large, heavy, often mottled and pale kidney. In this there is no hyperemia, but rather the reverse state usually exists. The cut surface has not the appearance of healthy structure, and gives one the idea of some matter having been implanted among the natural constituents, so as to obscure them and to produce a confused aspect. The tubes are found impacted with epithelial matter, but not by any means constantly obstructed or blocked up, although they may be irregularly dilated, &c.' 'The third variety of morbid change is that so familiar to observation as the dwindled, granular kidney.'²

"When we consider the temporary nature of the albuminuria in many of the cases of paralysis, we need have little doubt that the condition of the kidneys answers to the first variety here described, or that of extreme congestion, and this opinion is confirmed by the examination of Case 34, in which we found a high degree of congestion, which had indeed passed into a more advanced stage. I think, therefore, that we may fairly assume the albuminuria is due to a congested state of the kidneys, and I confess I cannot but think that the explanation given by Dr. G. Johnson and others, that this congestion is excited by the effort to eliminate some noxious element from the blood, is more in accordance with our present knowledge than any other, yet I must not omit to mention that by some this congestion has been attributed to pressure of the gravid uterus upon the renal vessels. Dr. Seyfert, as we have seen, rejects this mechanical explanation, and seems to attribute the albuminuria to the eclampsia, in consequence of the interruption of the functions of respiration and circulation.

"But, if the former theory be true, what is this morbid element, morbid in kind or degree? It is very difficult to answer this question. Dr. Simpson suggests that it may be an excess of urea or some morbid quantity or quality of caseine in the blood. Dr. George Johnson's observations seem to prove that

¹ Diseases of the Kidney, p. 105.

² Medical Times and Gazette.

in these cases, in addition to a change in the proportion of the normal constituents of the blood, of which the diminution of its albumen is one, there is always an excess of urea.

"Then it may be asked, 'to what is the effect upon the nervous system owing?' One can conceive that it may result either—1. From the continued presence of the noxious principle in the blood; or, 2. From the balance of the constituents of the blood having been destroyed; or, 3. From the diseased condition of the kidney—though to which of these we ought to attribute it, would be difficult to decide.

"But at whatever conclusion we arrive with respect to these interesting points, I am sure all will agree with me, that, taking the circumstances into consideration, it is probable the kidneys play a more important part in these paralytic affections than has been suspected, and that the subject deserves more attention than it has received. For, we find that in cases of convulsions terminating in paralysis, we may have albuminuria; in paralysis before delivery, without convulsions, we may have albuminuria; in paralysis occurring after delivery, we may have albuminuria; and further, that in the slighter cases, both the convulsions and paralysis diminish with the decrease of the albuminous secretion. Whether, therefore, the paralysis be caused by the state of the kidneys, or the renal congestion and paralysis be both the result of some morbid matter in the blood circulating through the system, it is clear that a new element may be added to those which have usually been considered as giving rise to paralysis.

"Nor is this barren theory only; but, if it be true, it has a direct bearing upon practice, inasmuch as our attention ought not to be confined to the secondary affection of the nervous system in such cases, but must be directed to the relief of the renal malady, and to the restoration of the kidneys to such a state of efficiency as may enable them to remove the morbid constituents of the blood; and for our encouragement, we have seen that a diminution of albumen in the urine is followed by mitigation and cure of the paralysis. For the latter affection, bloodletting, general when the system will bear it, or local by means of leeches or cupping; blisters, purgatives, and mercury, are the remedies usually employed; these must be modified according to the condition of the patient, the circumstances of the attack, and the duration of the disease. When much blood has been lost during labour, bloodletting must be omitted, and we must confine ourselves to counter-irritation; perhaps a series of small blisters to the neck, down the spine, or along the limb, will be the best mode of proceeding. The patient's strength must be supported judiciously by good diet, and it is quite possible that some stimulant, such as ammonia or camphor, may be necessary. When the paralysis has become chronic, strychnia or galvanism may be found useful; and I believe Dr. Stokes has found galvanic acupuncture very beneficial in facial paralysis.

"The renal disorder should never be treated by diuretics, but by external irritants, such as mustard poultices, or rubefacient liniments to the loins, and internally by diaphoretics, as suggested by Dr. Osborne¹ of this city, and when more chronic, by gallic acid, iron, &c."

37. *Inversio Uteri taking place during Labour.*—DR. GEORGE JOHNSTON, submitted to the Dublin Obstetrical Society, a case of this which came under his notice while assistant in the Dublin Lying-in Hospital.

Esther Page, aged 19, a thin delicate-looking woman, of fair complexion, was delivered of her first child, a healthy girl, on the 31st of July, 1851. Her labour so far was easy, and of about six hours' duration. The gentleman in attendance, after having tied and separated the funis, had maintained the contraction of the uterus with the hand above the fundus—in accordance with the usual practice of the hospital—for about a quarter of an hour, when finding a tendency to "draining," he increased his pressure; but, as he said, not nearly to the extent it had been, on frequent occasions, found necessary to employ, in order to assist in the expulsion of the placenta, or restrain hemor-

¹ On the Nature and Treatment of Dropsies, &c. 1837.